

**IN THE CLAIMS:**

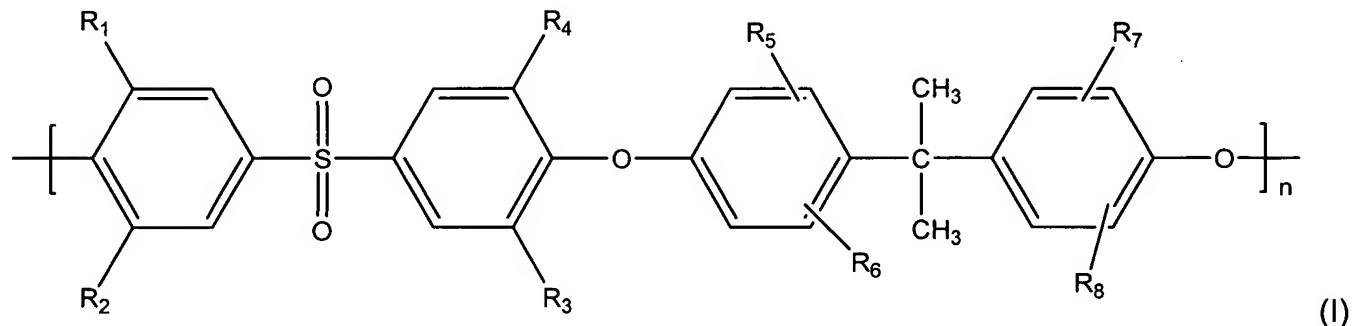
Please cancel claims 1-15 without prejudice or disclaimer, and substitute new  
Claims 16-30 therefor as follows:

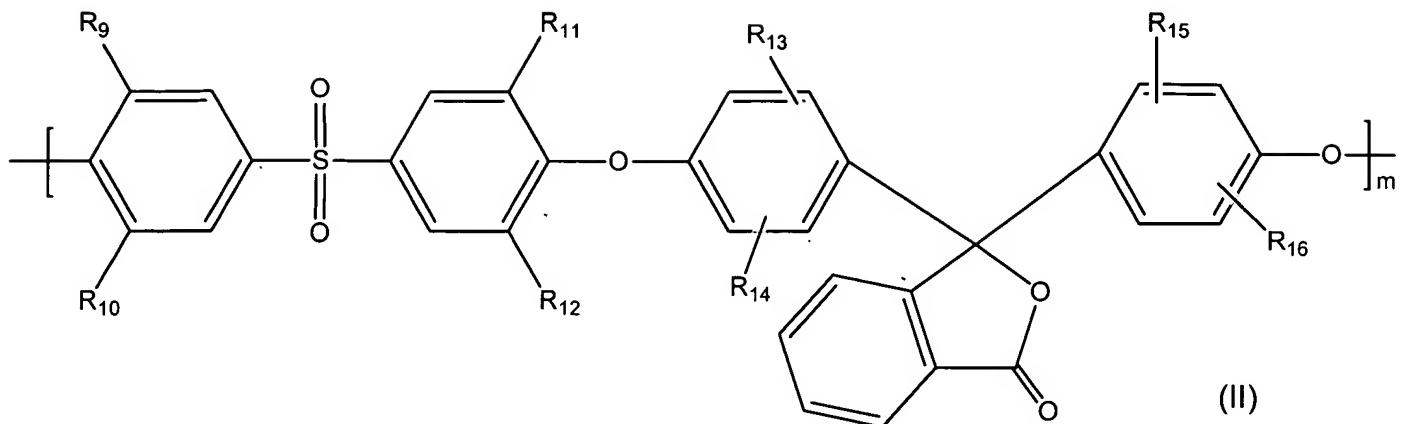
Claims 1-15 (Cancelled).

16. (New) A fuel cell comprising a membrane-electrode assembly comprising:

- (a) an anode;
- (b) a cathode; and
- (c) a polymer electrolyte membrane interposed between the anode and the cathode,

said polymer electrolyte membrane comprising a sulfonated polysulfone polymer having the following repeating units:





wherein

R<sub>1</sub>-R<sub>16</sub> are independently hydrogen, a SO<sub>3</sub>H group, a methyl group, an ethyl group or an optionally branched (C<sub>3-6</sub>)alkyl group, with the proviso that at least one of R<sub>1</sub>-R<sub>16</sub> is a SO<sub>3</sub>H group;

n+m is an integer from 10 to 1,000 inclusive;

n is an integer from 0 to 999 inclusive; and

m is an integer from 1 to 1,000 inclusive,

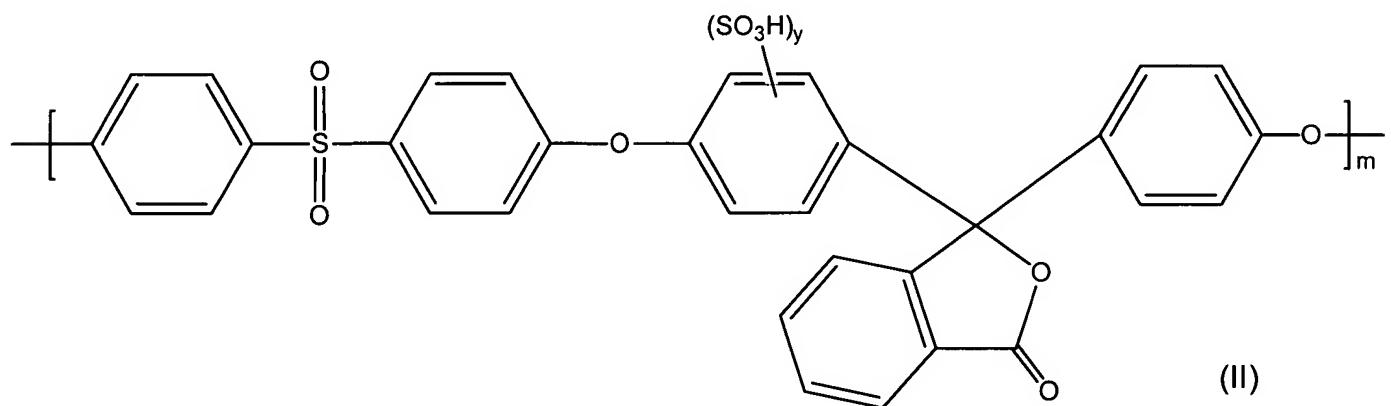
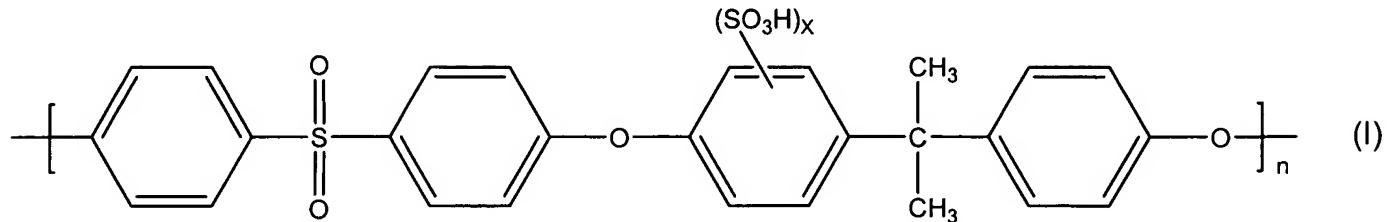
and salts thereof.

17. (New) The fuel cell according to claim 16, wherein at least one of R<sub>13</sub>-R<sub>16</sub> is a SO<sub>3</sub>H group.

18. (New) The fuel cell according to claim 16, wherein R<sub>1</sub>-R<sub>4</sub> and R<sub>9</sub>-R<sub>12</sub> is hydrogen.

19. (New) The fuel cell according to claim 17, wherein at least one of R<sub>5</sub>-R<sub>8</sub> and R<sub>13</sub>-R<sub>16</sub> is SO<sub>3</sub>H.

20. (New) The fuel cell according to claim 16, wherein said polymer electrolyte membrane comprises on a sulfonated polysulfone polymer having the following repeating units:



Wherein  $x+y$  is 1 and  $n=m$ .

21. (New) The fuel cell according to claim 16, wherein said polymer has a sulfonic content of about 0.5-3.5 meq/g.

22. (New) The fuel cell according to claim 20, wherein said polymer has a sulfonic content of about 0.7-2.3 meq/g.

23. (New) The fuel cell according to claim 21, wherein said polymer has a sulfonic content of about 0.8-1.3 meq/g.

24. (New) The fuel cell according to claim 16, wherein the polymer is amorphous.

25. (New) The Fuel cell according to claim 16, wherein the cathode and/or the anode comprises a sulfonated polysulfone.

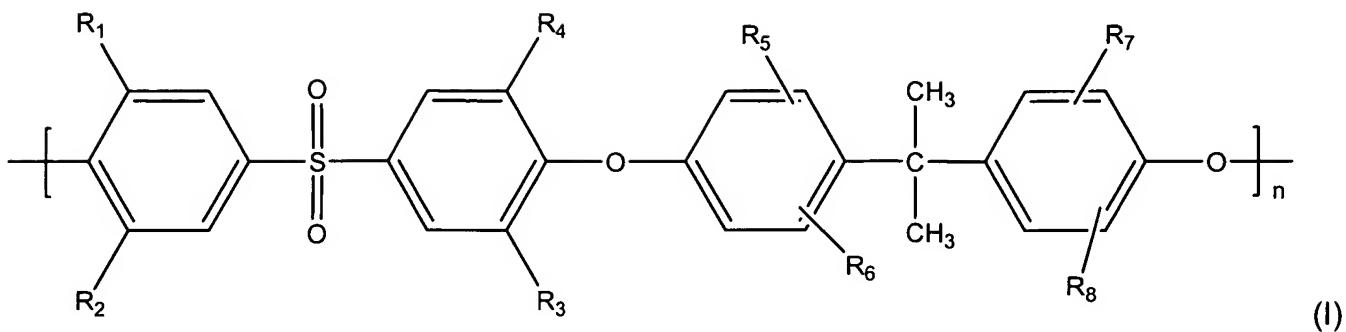
26. (New) The fuel cell according to claim 16, wherein the cathode and/or the anode comprises a sulfonated polysulfone polymer having the repeating units of claim 16.

27. (New) The fuel cell according to claim 16, comprising a hydrogen fuel cell.

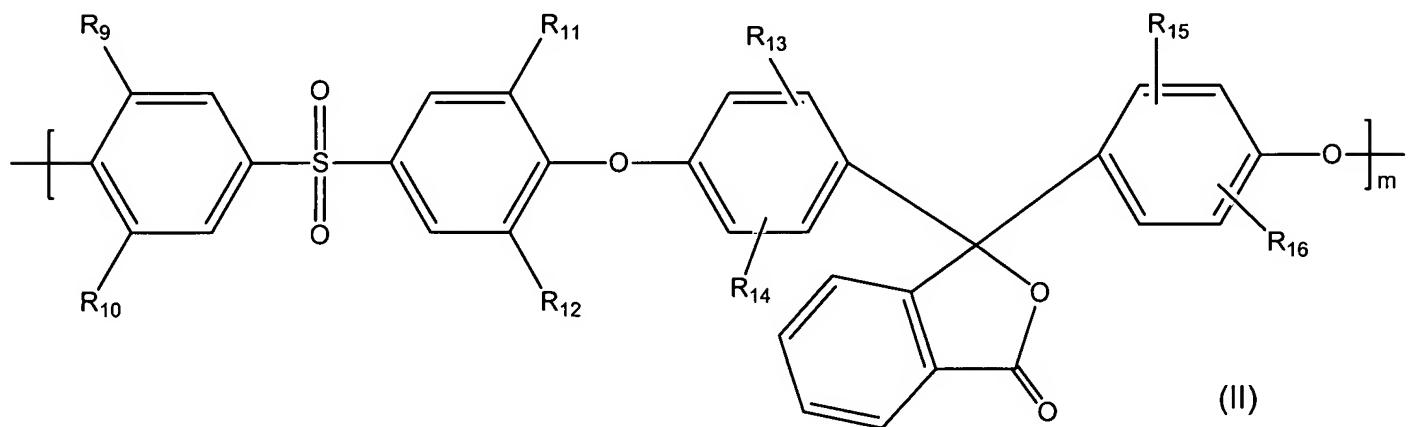
28. (New) A membrane-electrode assembly comprising:

- (a) an anode;
- (b) a cathode; and
- (c) a polymer electrolyte membrane interposed between the anode and the cathode,

said polymer electrolyte membrane comprising a sulfonated polysulfone polymer having the repeating units:



(I)



(II)

wherein

R<sub>1</sub>-R<sub>16</sub> are independently hydrogen, a SO<sub>3</sub>H group, a methyl group, an ethyl group or an optionally branched (C<sub>3-6</sub>)alkyl group, with the proviso that at least one of R<sub>1</sub>-R<sub>16</sub> is a SO<sub>3</sub>H group;

n+m is an integer from 10 to 1,000 inclusive;

n is an integer from 0 to 999 inclusive; and

m is an integer from 1 to 1,000 inclusive,

and salts thereof.

29. (New) An apparatus powered by the fuel cell of any one of claims 16 to

27.

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30. (New) The apparatus according to claim 29, comprising an engine for vehicle transportation, a power supply unit or an electronic portable device.